



Attorney's Docket No. TAN-296  
MAIL STOP AF

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: )  
NAKADE; KAMEYAMA ) Group Art Unit: 1615  
Serial No. 10/078,402 ) Examiner: B. FUBARA  
Filed: February 21, 2002 )

For: METAL OXIDE-ORGANOPOLYSILOXANE HYBRID POWDER AND A  
METHOD FOR THE PREPARATION THEREOF AND A COSMETIC  
COMPOSITION THEREWITH

DECLARATION UNDER 37 C.F.R. § 1.132

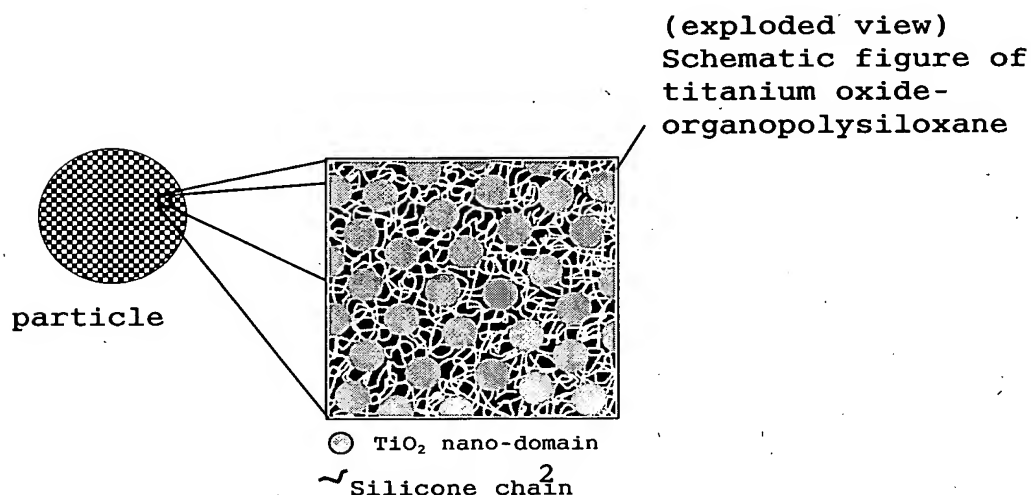
Sir:

I/we, Masato NAKADE, hereby declare as follows:

1. I am the same Masato NAKADE that is listed as a co-inventor of the captioned application.
2. I am a citizen of Japan with a residence at  
c/o Research & Development Division of KOSE Corp.  
48-18, Sakae-cho, Kita-ku, Tokyo, Japan
3. I am thoroughly familiar with the subject matter of this application and with the Office Action mailed on July 29, 2002, and all of the references cited therein.

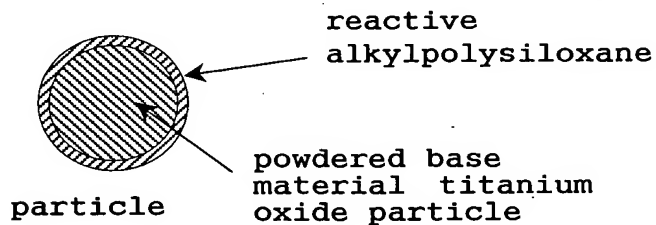
4. This Declaration compares the prior art particles of U.S. Patent No. 6,200,580 ("Horino *et al.*") and U.S. Patent No. 5,843,525 ("Shibasaki *et al.*") with the particles of the present invention.
5. Fig. 1 shows a homogenously hybridized titanium oxide-organopolysiloxane hybrid particle of the present invention with an exploded portion of the particle showing titanium dioxide bonded to silicone chains wherein the whole particle is comprised of a network of silicon atoms of the organopolysiloxane bonded by a covalent bond to a metal atom (such as titanium) through an oxygen atom.

Fig.1  
(The present invention  
(titanium oxide-organopolysiloxane hybrid particle))



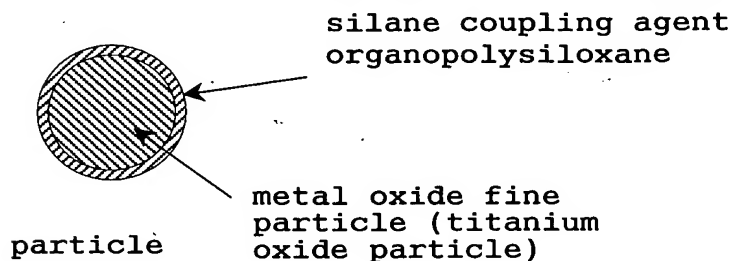
6. Fig. 2 shows the known particle of Horino *et al.* wherein polysiloxane is reacted only on the surface of the powdered base wherein the powdered base material is titanium oxide.

Fig. 2  
US 6,200,580 ("Horino *et al.*")



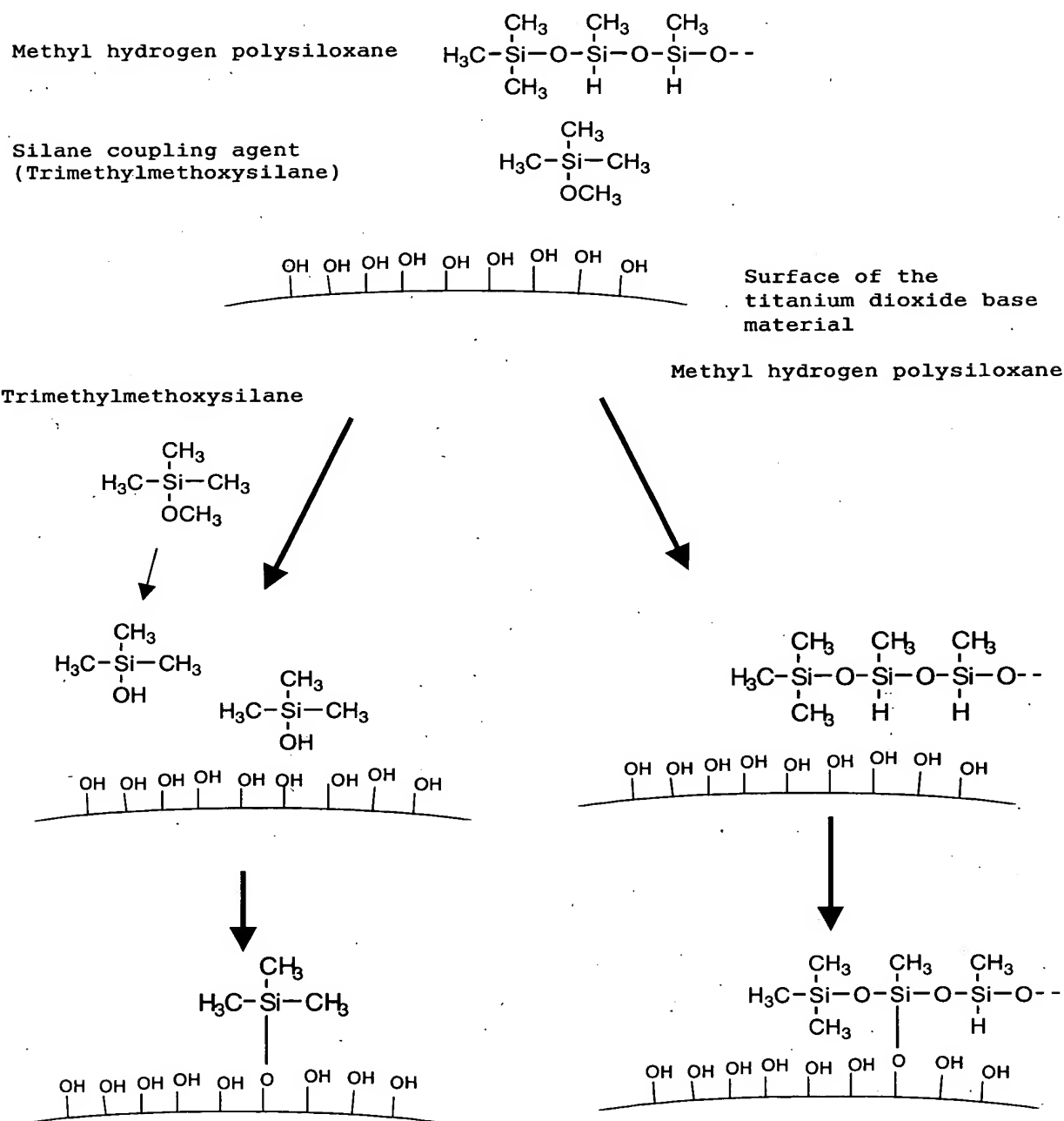
7. Fig. 3 shows the particle of Shibasaki *et al.* wherein the polysiloxane is again only reacted on the surface of powdered base wherein the powdered base material is titanium oxide.

Fig. 3  
US 5,843,525 ("Shibasaki *et al.*")



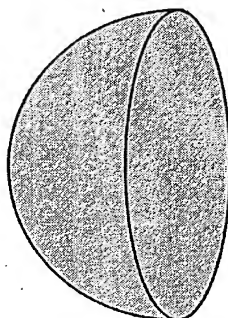
8. Fig. 4 shows the reaction on the surface of the titanium dioxide base material of the known compounds wherein the methyl hydrogen polysiloxane and trimethylmethoxysilane are reacted with hydroxyl groups on the surface of the base material to form a film. See Horino *et al.* at col. 13, lines 13-48.

Fig. 4  
(Surface coating reaction of prior art)

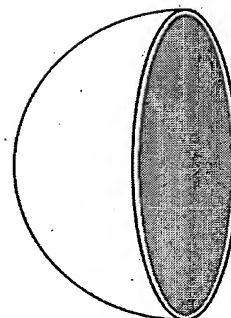


9. It is noted that the reaction for forming the homogenous hybrid particle of the present invention can be found in the specification on pages 3-5.
10. Table 1 shows the differences in starting materials, synthesis, and properties between the known surface modified particles and the presently claimed homogeneously hybridized particles.

Table 1



Hybrid



Surface modification

Titanium dioxide and the organo polysiloxane are hybridized uniformly at nanometer scale. Therefore, hybrid particles have both characteristics of them intrinsically.

The organopolysiloxane only covers the surface of titanium dioxide particles. Hence, basically, only the surface properties of the particles are improved.

**Starting materials**

Titanium alkoxide (liquid), organopolysiloxane with reactive groups

Titanium dioxide(solid particles), organopolysiloxane with reactive groups or silane coupling agents,

**Synthesis**

Co-hydrolysis and co-precipitation (co-condensation) of the starting materials

The reactive silicone or silane coupling agents were reacted with hydroxyl groups of the particle

**Mechanical property of particles**

Elastic

Not elastic

**Refractive index of particles**

Controllable

Not controllable

11. The Fig.'s 1-5 and Table 1 clearly show that the known particles of Horino *et al.* and Shibasaki *et al.* are completely different from that of the presently claimed invention because the known particles are surface treated with methyl hydrogen polysiloxane and reactive alkylpolysiloxane whereas the particles of the present invention are comprised of homogenously hybridized metal oxide-organopolysiloxane wherein a silicon atom of the organopolysiloxane is bonded by a covalent bond with a metal atom through an oxygen atom.
12. Clearly, the presently claimed invention is not anticipated or obvious over Horino *et al.* and/or Shibasaki *et al.*

Further Declarant Masato NAKADE sayeth:

I declare that all statements made of my own knowledge are true and that all statements made on information and belief are believed to be true and further, that any false statements so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code., and that



such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

June 7, 2005  
Date

Masato Nakade  
Declarant Masato Nakade